Swanscombe Solar Panel Recycling Facility

Fire Prevention Plan

For

UBH Group Limited
T/A
Solar Recycling Solutions
Unit B3
Manor Way business Park
Manor Way
Swanscombe
DA10 0PP

WHAT 3 WORDS LOCATION:
INPUT.PLUS.AHEAD

V.2 – August 2025

Table of Revisions & Reviews – Environmental Management System

Review Date	Revision Number	Date Of Issue	Reason for Review	Reviewed by:	Approved by:
08/2025	V.1	08/2025	Initial FPP during site commissioning	MRT	SR
08/2025	V.2	08/2025	Minor Amendments	MRT	SR
			Annual Review of Previous Version		
			Annual Review of Previous Version		
			Annual Review of Previous Version		
			Annual Review of Previous Version		
			Annual Review of Previous Version		
			Annual Review of Previous Version		

Document to be reviewed (and amended as necessary) as part of any upgrading or change of plant and/or in light of any incident or accident investigation.

Notwithstanding the above, this document will be reviewed annually as a minimum.

Contents

Text

Table of Revisions & Reviews – Fire Prevention Plan

1.	Preface	4
2.	Introduction & Non-Technical Summary – SRS Swanscombe	5
3.	Contact Details – Site, Operators, Regulators & Stakeholders	7
4.	Site Management	9
5.	Waste Activities	10
6.	Fire Prevention Measures	11
7.	Site Security & Fire Detection Systems	13
8.	Risks to Neighbouring Businesses & People	14
9.	Fire Fighting	15
10.	Shutdowns – Planned & Unplanned	16
11.	Fire Water Management	17
12.	Sensitive Receptors	18

Appendices

A.1 Fire Alarm System Details

A.2 Fire Extinguisher Maintenance Details

A.3 Induction Record – This Document Issue

Drawings & Figures

D.1 FPP Drawing - Location – SRS Swanscombe

D.2 FPP Drawing – Building & Site – Ground Floor

D.3 FPP Drawing – Building & Site – First (Mezzanine) Floors

1.0 Preface

These documents have been prepared with all reasonable care, skill & diligence by Mike Thompson Associates Ltd (MTP) and associated consultants as necessary.

Information contained herein is based on the interpretation of data collected from various sources which has been accepted in good faith as being accurate and valid.

These documents are for the exclusive use of the client named in the document header and only for the project also detailed in the header.

No warranties are expressed or should be inferred by any third parties. These documents should not be relied upon by other parties without written consent from MTP.

MTP disclaims any responsibility to the client and others in respect of any matters outside the agreed scope of the works.

Evaluations and conclusions detailed herein do not preclude the presence of other issues on site, which could not be reasonably have been revealed by these reports or any assessments detailed herein.

2.0 Introduction & Non-Technical Summary – SRS Swanscombe

2.1. The Site

The SRS Swanscombe solar panel recycling site is located at Solar Recycling Solutions, Unit B3, Manor Way business Park, Manor Way, Swanscombe DA10 0PP.
The site lies just north of the A226 road and just west of the main London to Ashford rail line.

The immediate area around the site comprises a large industrial estate with various industrial units housing mainly vehicle maintenance works, vehicle breakers yards, etc.
Within 200m of the site lie a number of the elements of the Swanscombe Peninsula SSSI.

The site comprises 3 bays of a row of brick and steel clad enclosed industrial/warehousing units, each bay measuring approximately 16m x 38m.
The units are numbered B1 – B3, west to east.
There is a partial block wall between B3 and the others.
Within the front of bays 1 & 3 are 2 small, double storey office/amenity/store room facilities built of block work within the buildings.
The buildings are all open span roofed with reinforced concrete trusses supporting a fibre cement roof with light panels set in 2 rows along each side of each bay's ridge line.
There is an unloading area in front of the buildings, to the north, and hardstanding areas to the west and south.
The site is supplied with mains electricity, drainage and gas.
Main entrance for the site is on the north side of the building, alongside the unloading area.

All the buildings have a sealed, concrete floor and the unloading area to the north also has a sealed concrete floor.

The storage area south of the buildings currently has a partially sealed surface with inset gulleys & drainage.

2.2. Solar Panel Recycling Technology

SRS Swanscombe uses a new plant to deconstruct and recycle end-of-life solar panels.
No other waste type is received on site.
All incoming WEEE panels are rapidly reduced to their constituent factions by an automated process line and the recycled factions are sold to onwards processors for re-use within the marketplace.
No panels are refurbished or released for re-use by SRS Swanscombe.

The site process is as follows:

2.2.1. Loads are all prebooked.
Only a single customer's WEEE is processed at any one time.
Panels are checked prior to despatch to Swanscombe to ensure no hazardous waste is present within the WEEE.

2.2.2. Loads are received, unloaded and inspected in the loading/unloading area immediately outside the front and eastern side of the process buildings.
Contaminated panels are rejected if they are not processable.

2.2.3. The panels come palletised and are offloaded by forklift.
All incoming panels are stored in B1 whilst awaiting processing.
The panels are stored with the top panel glass down (if not stored undercover) and on an impermeable surface.

2.2.4. Panel Processing
The panels first have the junction/inverter boxes removed from the rear manually and are then placed on the line where the aluminium frame is pulled off the panel as a first operation.
The junction boxes are granulated to recover copper, metals and plastics.
The aluminium frame pieces are placed in a skip for despatch off site & onwards processing at a smelter.

2.2.5. Glass Removal

The panel is placed glass-down on the deglazing unit and the glass is removed from the cells underneath through the use of a milling line to take the glass off the silicone cell backing.
The glass is ground to a fine powder and stored in bulk 1 tonne bags for onwards re-use.

2.2.6. Copper/Silicone/Plastics Sorting
The cells of the panel are destroyed through shredding.
The materials are reduced to powder form and then separated using a proprietary technology unique to this plant line.
This produces copper, silver, lead, silicone and plastics as finely divided separated products or a purity suitable for re-use, stored in bulk 1 tonne bags for onwards re-use.

2.2.7. Product Storage
All recycling products are stored within the building on a sealed surface.
The products are either stored in sealed bulk bags (granulated materials) or skips (aluminium framing).
Secure storage is needed as the products have a high resale value.
If required, deframed panels are stored in pallets in closed, locked containers in the yard to the south of the building.

2.3. Site Permitting

SRS Swanscombe currently operates under a T11 Exemption while the operation and process plant are proved.

A bespoke Permit application is being submitted in late summer 2025.

As part of the bespoke Permit documentation, a full EMS for the site will be produced, incorporating this Fire Prevention Plan.

3.0 Contact Details – Site, Operators, Regulators & Stakeholders

3.1. Site Address:
Solar Recycling Solutions
Unit B3
Manor Way business Park
Manor Way
Swanscombe
DA10 0PP

3.2. Site Operator:
UBH Limited
Trading as
Solar Recycling Solutions
Unit B3
Manor Way business Park
Manor Way
Swanscombe
DA10 0PP

3.3. Key Contacts List

CONTACT	DESCRIPTION	OFFICE HOURS	OUT OF HOURS
Sal Rogers	Site Manager	01892 506916	07920 510409
Darent Velley Hospital Darent Valley Hospital, Darenth Wood Road, Dartford, Kent DA2 8DA	Local NHS Hospital (Main) & Accident & Emergency (A&E)	01322 428100 & 999 - Emergency	999
North Kent Police Station, Thames Way, Northfleet, Gravesend, Kent, DA11 8BD	Local Police	01622 690690 & 999 - Emergency	999
Dartford Fire Station, Powder Mill Lane, Dartford, Kent, DA1 1NS.	Fire & Rescue Service	01622 692121	999
Environment Agency, Orchard House, Endeavour Park, London Road, Addington, West Malling, Kent, ME19 5SH	Environmental Regulator	0370 850 6506	0800 80 70 60
Swanscombe & Greenhithe Town Council, 16, The Grove, Swanscombe, DA10 0AD	District Council General Enquiries	01322 385513	01322 385513

Kent County Council, County Hall, Maidstone ME14 1XQ	County Council (Waste Planning Authority) General Enquiries	0300 041 4141	0300 041 4141
Mike Thompson, Mike Thompson Partnership Ltd.	Specialist Waste & Permitting Consultant	07773 812410	07773 812410

4.0 Site Management & Staff

4.1. The site has a full time Site Manager and operates using 5-6 staff.

4.2. The main offices and amenities are located in a mezzanine within the western building (right side of the frontage).

4.3. The site Reception is located to beside the left roller shutter door, with a small mezzanine behind/above providing some office space and amenities for the site plant operatives.

4.4. The site has a number of fire marshal-trained staff so one is present whenever the site is operating.

4.5. All staff have been inducted on this FPP and are trained in the use of the fire extinguishers on site.

4.6. The site also has a number of operatives/management staff trained as first aid providers, as required.

4.7. The site operates a sign in book for visitors.
In the event of a fire, this will be taken by Fire Marshal to the muster point so that any visitors can be checked as having evacuated the building.

4.8. The site operates an in/out board for all staff. This is located at the entrance to the management offices.
In the event of a fire, this board will be taken by Fire Marshal to the fire muster point so all employees present on site may be accounted for.

5.0 Waste Activities

5.1. Waste Types & Tonnages to be processed

SRS Swanscombe will only receive and process solar panels – Category 14 WEEE.

The EWC waste code for this stream is below:

Waste Code	Description
16	WASTES NOT OTHERWISE SPECIFIED IN THE LIST
16 02	wastes from electrical and electronic equipment
16 02 14	discarded equipment other than those mentioned in 16 02 09 to 16 02 13

SRS Swanscombe currently has a single operational solar panel processing line, capable of handling c.200,000 panels per annum.

A second line is being commissioned, capable of doubling the site's throughput to c.400,000 panels per annum.

A solar panel weighs, on average, c.20kg per panel, so the approximate throughput of the site, when working at full capacity, will be around 90,000 tonnes per annum.

To cover any variation of the panel weights, the Permit will be written to cover a throughput of 100,000 tonnes per annum.

None of the incoming wastes processed on site are inherently flammable.

5.2. Waste Recycling Activities

The site deconstructs solar panels to produce a number of products of high enough quality to be returned to the market place for use instead of virgin materials.

The deconstruction process is as described in Section 2. No heat is required within the deconstruction process and, apart from the granulated plastics produced, none of the products are inherently flammable.

The process is fully automated and all plant is electrically driven so no large fuel stocks are kept on site.

6.0 Fire Prevention Measures

The following active fire prevention measures are taken by the site:

6.1. Fuel and Maintenance Fluid Storage

As all plant has electric drives, there are minimal maintenance fluids stored on site.
These fluids are stored in bunded tanks within the designated maintenance stores, located on the ground floor in the unit B1, as shown on the plan.

The site does use forklift trucks and small amounts of fuel for these is stored in a bunded store located in unit B3.

6.2. No flammable Waste Accepted

No flammable waste is accepted on site, so greatly reducing the fire risk of the operation.

6.3. Segregated Storage of Recycled Products

All recycled materials are stored in bulk bags to the rear of unit B1.

Apart from the granulated plastic from junction boxes and cables, none of the stored recycled materials are flammable.

No stored material will self heat.

A maximum of 10 tonnes of plastic may be stored at any one time within the building. Should more storage be required, bulk bags may be stored in a locked container in the yard to the rear of the building. This container will be clearly marked and a maximum of 20 tonnes of granulated plastic will be stored here in bulk bags.

6.4. Segregated Storage of Incoming Waste

All incoming solar panels are stored within the buildings (mostly within unit B1).

All panels are stored on pallets within a locked container/building with either the top panel stored upside down or the pallets covered to prevent solar heating.

Prior to storage, these panels will be inspected for damage and/or contamination.
Only recyclable, acceptable panels will be received by the site.

Any non-conforming waste will be stored in a closed, locked, clearly labelled container in the yard and will be disposed of at a suitably permitted facility at the earliest opportunity.

6.5. Dust Management System

The site operates a dust extraction & filtration system covering all the dust generating operations carried out on site.

Dust is collected in bag filters within the system and is discharged to bulk bags.

As most of the dust collected is glass, it is of very low flammability and poses no risk of a dust explosion.

All collected dust is stored in bulk bags whilst awaiting sampling & disposal or onwards recycling at a suitably permitted facility.

6.6. Fire Doors to all Office & Amenity Mezzanines

All the amenity and office areas/mezzanines are segregated from the main operating areas by fire doors and/or fire-resistant floors.

6.7. Good Housekeeping

The site follows a strict regime of good housekeeping, with all operational areas kept free of litter, debris or obstructions, particularly egress routes and fire doors.

The operating building is swept daily to ensure no debris builds up to cause trip hazards.

All litter, maintenance waste or other wastes are removed from the building and stored in labelled, covered bins in the yard whilst awaiting collection for disposal or onwards recycling.

6.8. Solid Walls to Neighbouring Industrial Units

The common wall between unit B£ and the neighbouring vehicle maintenance garage is of solid brickwork and is unbroken up to the building roof line.

The building as a whole is block/brick built, with the roof supported on open-span reinforced concrete trusses.

6.9. Active Maintenance Program for Operating Plant

The plant is all electric drive and so poses a low risk of fire.

The active maintenance and inspection procedures for the plant include the removal of dust from motor cooling fans, etc, to prevent heat build-up on the plant.

The electrical safety of the plant is regularly inspected to minimise the chance of sparks/shorts/shocks and these checks are recorded in the site maintenance logs.

6.10. No Smoking Site

The site operates a no smoking policy for the whole site.

6.11. Fire Extinguishers

The site has a number of fire extinguishers (powder and CO2), maintained under contract.

The contract details are attached in Appendix A.2.

The locations of the fire extinguishers are shown in the attached drawings.

6.12. Electrical Isolation Switches

Each bay has it’s own electrical isolator.
The location of these are shown in the plans.

6.13. Gas Supply

There is no gas supply to the building.

7.0 Site Security & Fire Detection Systems

7.1. The site is kept locked at all times when not in operation.

7.2. During working hours, the site will operate with all doors closed unless receiving waste or despatching recycled materials.

7.3. Out of hours security is provided through a CCTV system which alerts the site managers, foreman and company director in the event of a security breach.

7.4. The CCTV system also runs infrared cameras with movement detection, so these will send alerts/alarms to the designated managers in the event of a fire occurring within the building.

7.5. During operating hours, the site has a fire alarm system and all staff are aware of its use.

Regular fire drills are undertaken, where the alarms are sounded and the staff evacuate to the fire muster point located outside the front of Unit B1.

8.0 Risks to Neighbouring Businesses & People

The site poses a relatively low risk to neighbouring units on the industrial estate:

8.1. No flammable waste is accepted on site.
Solar panels stored on site are stored under cover within a locked container or building to prevent solar heating.

8.2. Minimal fuels and maintenance fluids are kept on site.
Those present are kept in bunded storage away from the main operating areas of the site.

8.3. Segregated storage of non-conforming waste and site waste.
There is minimal of either generated and this is stored within the yard within a labelled, covered, locked bin whilst awaiting disposal.

8.4. No hazardous waste is accepted on site.

8.5. The waste is stored on and impermeable floor.

8.6. The building is constructed of largely non-flammable materials.

8.7. The recycling process uses no heat.

If anything, the neighbouring units on the site (predominantly vehicle breakers/maintenance businesses & the like) pose a greater risk to SRS from fire due to the nature of their operations.

9.0 Fire Fighting

In the event of a fire being discovered on site, the site staff are instructed to do the following if possible without personal risk or risk to other people/property:

9.1. Shout “Fire! Fire! Fire!” In a loud voice. Ensure nearby colleagues are aware of the situation.

9.2. Sound the fire alarm.

9.3. Call the Fire Rescue Service on 999 & inform them of:
The location of the site
The details of the incident
The best access point to site for the FRS

9.4. If safe to do so, shut down the power supply to the affected area/item of plant.
If this is not possible, isolate the affected unit using the main isolation switch located near the front of each unit.

9.5. If safe to do so and the fire is small, use a suitable fire extinguisher to minimise/extinguish the fire.

9.6. Leave the building by the nearest fire exit and go to the muster point.

9.7. Fire Marshal is to take the Visitor’s Book and In/Out board to the muster point to ensure all persons are accounted for.

9.8. Fire Marshal to send a member of staff to open the yard access if required for the Fire Service.

9.9. Fire Marshal to stay at the muster point to await the Fire Service and brief the FRS on the situation and any actions taken.

9.10. Once the FRS arrive on site, all control of the building and site to be passed to the FRS Station Officer.

9.11. FRS to be advised of any risks on site (ongoing works, materials storage, etc) and are to be given any information requested.

9.12. A copy of the FPP is to be handed to the FRS.

9.13. No-one is to re-enter the building or site until the FRS confirms the fire is extinguished and it is safe to do so.

In the event of a fire breaking out in the adjacent vehicle workshop, the site staff are to follow the above procedure without attempting to fight the fire.

Fire Hydrant Location

The FRS have confirmed that there are fire hydrants close to the site but has not confirmed the locations.

The nearest fire hydrants publicly acknowledged are located at the junction of Cresswell Rd/Claylands Lane – some 800m west of the site.

10.0 Shutdowns – Planned & Unplanned

10.1. The plant does not process a large tonnage of material at any one time and is all electrically driven so a shut down will not pose a risk to the plant or operators.

10.2. No process or waste being recycled has a minimum residence time within the plant so shut downs can be immediate and complete.

10.3. Phased restarts (last process to first) allow the plant to process any materials remaining within the plant if shut down.

10.4. In the event of a shut down, both the main plant and the dust extraction system will close down. As the dust extraction pathway is short and there is minimal air volume within the dust extraction system, this will pose little risk to the environment as no tramp emissions will be generated.

10.5. All plant is supplied with emergency shut off switches as required.

10.6. Plant may also be shut down through the main control panels for the process.

10.7. In the event of an emergency, isolating the power supply to the site building will shut down the plant.

There are no hot process within the plant so an emergency shut down will not cause a fire risk.

11.0 Fire Water Management

11.1. There is a relatively low amount of flammable materials within the building.
There is also no flammable waste accepted on site.

11.2. Therefore, the amount of fire water required should be minimal and, due to the lack of hazardous material on site, of low contamination apart from various combustion products.

11.3. The buildings will have shallow (0.1m high) concrete kerbs placed at each exit to retain fire water within the building.
This may be re-used by the FRS if practicable.

11.4. The fire water can then either be pumped out of the building and discharged by sewer under the site trade effluent consent or removed by vacuum tanker.

11.5. The building, with the retention kerbs in place, will have a retained volume of c.162m^3.

11.6. The waste stored in the yard is stored on pallets inside locked shipping containers and comprises the glass panels and silicone backing from the de-framed panels.
As all the material stored in this way is non-flammable and the shipping containers are steel, there is a very minimal risk of fire as there is nothing to burn and so the yard will not generate fire water.

In the event that there is an incident in the yard, the containers will be dealt with using foam on an individual basis.

12.0 Sensitive Receptors

12.1. There are a number of receptors around the Swanscombe site.

12.2. The area immediately around the site comprises an industrial estate that houses a large number of businesses, mainly based on breaking or repairing various vehicles.
Local businesses also include scrap yards, landscaping supplies, parcel distribution companies, some storage facilities and various builder's and home improvement companies.

12.3. 50m east of the site lies the main Eurostar railway line into London.
Ebbsfleet International Station lies 1,100m to the south east of the site.

12.4. Elements of the Swanscombe Peninsular SSSI lie some 160 to the north and south of the site.

12.5. The nearest residential properties lie some 180m to the south west of the site along Galley Hill Road.

12.6. Due to the nature of the waste received on site, the operations carried out on site and the construction manner and materials of the building, the site poses a relatively low risk to any local receptors.
Especially when taking into consideration the level of fire risk posed by the nearby industries located on the industrial estate.

Appendices

A.1 Fire Alarm System Details

A.2 Fire Extinguisher Maintenance Details

A.3 Induction Record – This Document Issue

A.1 Fire Alarm System Details

Attached as pdf document

A.2 Fire Extinguisher Maintenance Details

Attached as pdf document

A.3 Induction Record – This Document Issue

Staff Signature	Staff Name	Date	Inductor Signature	Inductor Name

To be retained with original FPP document.

Drawings & Figures

D.1 FPP Drawing - Location – SRS Swanscombe

D.2 FPP Drawing – Building & Site – Ground Floor

D.3 FPP Drawing – Building & Site – First (Mezzanine) Floors